

Occurrence of *Neocyttus helgae* (Zeiformes, Oreosomatidae) in the Cantabrian Sea (Northern Spain)

by

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RÉSUMÉ. - Capture de *Neocyttus helgae* (Zeiformes, Oreosomatidae) dans le golfe de Gascogne (nord de l'Espagne).

Deux spécimens de *Neocyttus helgae* (Holt & Byrne, 1908) ont été capturés au large des côtes espagnoles des Asturies. C'est le deuxième signalement pour les eaux de la péninsule Ibérique. À l'instar d'autres espèces d'eaux profondes, les études menées sur *Neocyttus helgae* sont fortuites, tributaires des captures effectuées par les navires de pêche. Cette espèce bathypélagique a été observée sur les marges continentales de l'Atlantique nord-est depuis Madère jusqu'aux îles Féroé mais sa biologie reste encore en grande partie méconnue. Des données biométriques sont incluses.

Key words. - Oreosomatidae - *Neocyttus helgae* - ANE - Cantabrian Sea - New record.

The species of the family Oreosomatidae (Oreos) are distributed widely throughout the southern hemisphere, being most common around New Zealand, Australia and South Africa. The family comprises 4 genera, with a total of 9 species, two of which (*Allocyttus niger* James, Inada & Nakamura, 1988 and *Pseudocyttus maculatus* Gilchrist, 1906) are important components of the New Zealand and Australian demersal trawl fisheries. Records of Oreos in the northern hemisphere are scarce. To date, only three species have been caught in the Northeast Atlantic: *Allocyttus verrucosus* (Gilchrist, 1906) by Du Buit and Quéro (1993), *Neocyttus helgae* (Holt & Byrne, 1908) and *Pseudocyttus maculatus* by Post and Jónsson (1996). Oreos are extremely long-lived and slow-growing, with maximum ages for *A. niger* of 153 years and 86 years for *P. maculatus* around New Zealand and Australia (Annala *et al.*, 2003). Besides, juveniles and adults differ both in body form and habitat preferences. The bodies of Oreos juveniles are proportionately deeper than adults and in most species bony tubercles are present on the ventral region of the body. Moreover, while adults are benthopelagic, aggregating into large shoals over rough grounds near pinnacles and canyons on the continental slope from 400 to 1500 m, juvenile Oreos are pelagic and inhabit oceanic waters, tending to be widely dispersed and usually only rarely caught (James *et al.*, 1988; Lyle *et al.*, 1992).

RESULTS

Two adult male specimens of *Neocyttus helgae* were caught in continental slope waters off Asturias by a commercial gill-netter, 241 mm SL (Fig. 1) and 214 mm SL, 43°56'N-05°36'W, 725 m depth, 11 February 2006. The individuals were preserved and transferred to the fish collection of the Centro de Experimentación Pes-

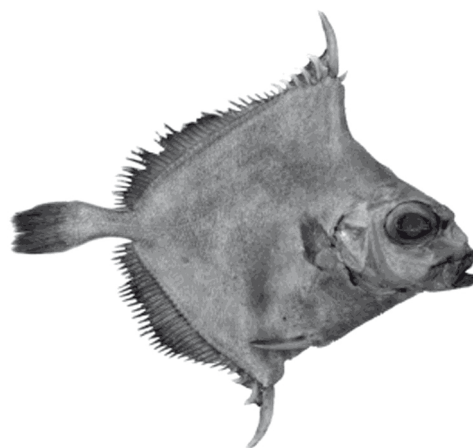


Figure 1. - *Neocyttus helgae*, 241 mm SL, (CEP 1), from the Asturian coast, Northern Atlantic.

quera in Gijón (N° CEP1 and CEP2, respectively).

Morphometric data (as a percentage of standard length) and meristic data from the specimens are given in table I. They were recorded following conventional methods (Fariña *et al.*, 1998; Quéro *et al.*, 2000). Body extremely rhomboidal and laterally compressed (diamond shape and lateral expansion). Moderate eyes, mouth small with protractile jaws. The second dorsal-fin spine enlarged, much longer than the first spine of dorsal fin. First anal-fin spine massive, far longer than the second and subequal in size to second dorsal-fin spine. Pelvic-fin spine very strong, slightly smaller than second dorsal-fin spine and reaching to anal-fin origin. Body scales extremely adherent, not easily removable by abrasion. Pectoral fin rounded. Colour grey when fresh but turn greyish-brown when preserved. Fins, mouth, oral and ocular membranes blackish. Spines translucent.

DISCUSSION

All counts and measurements closely correspond to data reported for this species (Holt and Byrne, 1908; Maul, 1948; Quéro *et al.*, 2000). *Neocyttus helgae* is a benthopelagic species mainly distributed from the Faroe to Madeira Islands (Fig. 2) (Fariña *et al.*, 1998), with a maximum SL recorded of 277 mm (Glukhov and Kuz'michev, 1984). Mostly found on the continental slope, it lives at depths of 850 to 1500 m and is strongly associated with habitats

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Table I. - Morphometric and meristic data of the two *Neocyttus helgae* caught in Asturian waters (North of Spain). * Dorsal and caudal fins damaged. [Données morphométriques et méristiques des deux *N. helgae* capturés dans les eaux asturiennes (nord de l'Espagne). * Nageoires dorsale et caudale endommagées.]

	Specimen 1	% SL	Specimen 2	% SL
Measurements (mm)				
Total length	262	-	238*	-
Standard length	241	-	214	-
Head length	85	35.27	72	33.64
Horizontal diameter of orbit	31	12.86	27	12.62
Prenatal length	112	42.75	97	45.33
Length of dorsal fin base	139	57.68	142	66.35
Length of anal fin base	115	47.72	105	49.07
Pectoral fin length	34	14.11	35	16.36
Caudal peduncle depth	15	6.22	14	6.54
Length of second dorsal spine	41	17.01	38	17.76
Length of first anal spine	41	17.01	34	15.89
Length of pelvic spine	40	16.60	34	15.89
Weight (g)	263	-	251.3*	-
Meristic characters				
Dorsal	VII + 33		VII + -	
Anal	IV + 30		IV + 30	
Pelvic	I + 6		I + 6	
Pectoral	18		17	
Caudal	13		-	

of high currents, ripple marks, slopes, reefs of rocks and gorgonians (Dekindt, 2001). In Iberian Peninsula coastal waters, Oreos are a very poorly known family. Only one species and one specimen have been recorded previously: *N. helgae*, on the Galician slope (Northwest Spain) (Fariña *et al.*, 1998). Because catches of this species have been incidental, and are from by-catch reports, the geographic distribution and general biology of *Neocyttus helgae* remain poorly known. Until the expansion of deepwater fisheries in the 1970s, there were only two records of adult specimens of *N. helgae* from the Northeast Atlantic: the holotype from off the Irish coast described as *Cyttosoma helgae* Holt & Byrne, 1908, and another specimen caught North of Madeira and first described as *Crassispinus granulatus* Maul, 1948. Since 1990, several specimens have been captured, mainly from Rockall Trough and Porcupine Seabright (Quéro *et al.*, 2000). Further catches of this species are likely following the increase in fishing activity in deeper waters in recent years.

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REFERENCES

- ANNALA J.H., SULLIVAN K.J., O'BRIEN C.J., SMITH N.W.McL. & S.M. GRAYLING, 2003. - Report from the Fishery Assessment Plenary, May 2003: Stock Assessments and Yield Estimates. 616 p. Unpublished report held in NIWA library, Wellington, NZ.
- DEKINDT K., 2001. - Contribution à l'étude de la distribution spatiale des coraux, caractérisation des différents faciès et de la faune associée sur le site du Mont Thérèse. Stage effectué à l'Ifremer de Brest, Direction des recherches océaniques, Département environnement profond, 33 p.

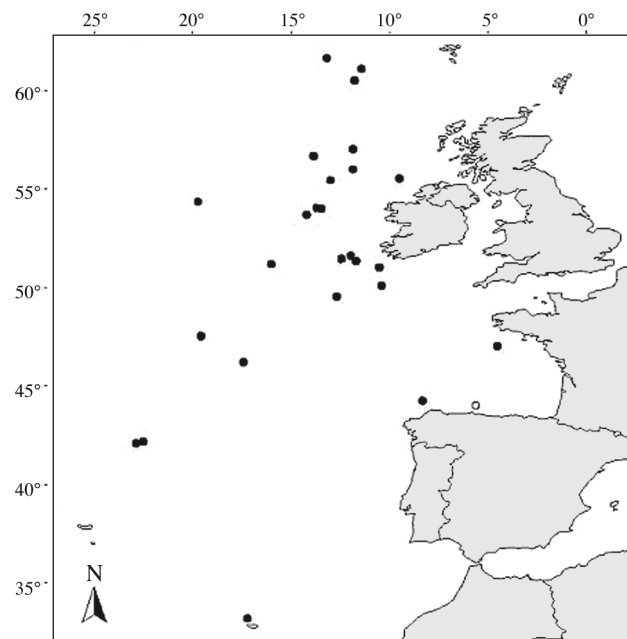


Figure 2. - Geographic distribution of known material of *Neocyttus helgae* in the NE Atlantic. A single symbol may indicate more than one capture. The two new records off Asturias are indicated by an open circle. [Distribution géographique des spécimens de *N. helgae* connus dans l'Atlantique NE. Un symbole unique peut signaler plusieurs captures. Les deux nouveaux cas recensés au large des Asturies sont indiqués par un cercle blanc.]

- DU BUIT M.-H. & J.-C. QUÉRO, 1993. - Premier signalement en Atlantique nord-est d'*Hoplostethus cadenati* (Beryciformes, Trachichthyidae) et d'*Allocyttus verrucosus* (Zeiformes, Oreosomatidae). *Cybiurn*, 17(1): 81-82.
- FARIÑA A.C., PÉREZ A. & R. MORLÁN, 1998. - First record of *Neocyttus helgae* (Pisces: Oreosomatidae) on the slope off Galicia (Northwest Spain). *Sci. Mar.*, 63(2): 177-180.
- GLUHKOV A.A. & A. P. KUZ'MICHEV, 1984. - New record of *Squaliolus laticaudis* (Squalidae) and *Neocyttus helgae* (Zeidae) in the northeast Atlantic. *J. Ichthyol.*, 24(3): 122-124.
- HOLT E.W.L. & L.W. BYRNE, 1908. - New deep-sea fishes from the south-west coast of Ireland. *Ann. Mag. Nat. Hist.*, 8(1): 86-95.
- JAMES G.D., INADA T. & I. NAKAMURA, 1988. - Revision of the oreosomatid fishes (Family Oreosomatidae) from the southern oceans with a description of a new species. *N. Z. J. Zool.*, 15: 291-326.
- LYLE J.M., RILEY S.P. & J.A. KITCHENER, 1992. - Oreos, an under utilised resource. *Aust. Fish.*, 51(4): 12-15.
- MAUL G., 1948. - Quatro peixes novos dos mares da Madeira. *Bol. Mus. Munic. Funchal*, 3(6): 41-55.
- POST A. & G. JONSSON, 1996. - *Pseudocyttus maculatus* Gilchrist, 1906 (Pisces, Oreosomatidae) - First record from the boreal Northern Hemisphere. *Arch. Fish. Mar. Res.*, 43(2): 195-199.
- QUÉRO J.-C., DU BUIT M.-H. & V. RIBES, 2000. - Les juvéniles de *Neocyttus helgae* (Actinopterygii: Zeiformes: Oreosomatidae). Distribution des Oreosomatidae dans l'Atlantique européen. *Ann. Soc. Sci. Nat. Charente-Marit.*, 8(9): 1059-1067.

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